

Responding to Students in the Moment /Over time

3Unit: Patterning and Algebra Breakout 3 to follow plenary 4

Grade

	Math Learning Goals	Materials
120 min	<p>Responding to Students In the Moment / Over Time</p> <ul style="list-style-type: none"> • understand the difference between additive thinking and multiplicative thinking • use a Frayer model to define multiplicative thinking • examine student work and match it to the stages of multiplicative thinking chart • write descriptive feedback on the content • do math together • discuss the processes and how they influence problem solving • become familiar with the DI process cards and re-write prompts appropriate for students in K-4 	<p>Each table:</p> <ul style="list-style-type: none"> • Set of 7 student samples • Post-it notes • BLM PandA B3.1 Proportional Reasoning • BLM PandA B3.2 Frayer Model • BLM PandA B3.13 Stages in Multiplicative Thinking • DI process cards • Tongue depressors and permanent markers
<p>Minds On...</p> <p>10 min</p> <p>Did not proceed with Clock Partners as was second half of week.</p> <p>20 min</p> <p>This reading was completed in PR breakouts</p>	<p>Whole Group → Clock-face Partners</p> <p>Each participant makes a clock face on a post-it note. Then participants find a partner for 12 noon, 3 o'clock, 6 o'clock, and 9 o'clock. None of the people on the clock face can be from your current table. These partners will be used throughout the session.</p> <p>Home Groups of 4</p> <p>Turn and Talk Reading Strategy</p> <p>Return to home table. Read BLM PandA B3.1 Proportional Reasoning. As you read, after each paragraph, turn to an elbow partner and say one thing about what you read.</p> <p>Find your 6:00 partner . Sit down where you are and complete a Frayer Model to explain what Multiplicative Thinking is and what it is not.</p>	
<p>Action!</p> <p>35 min</p> <p>20 min</p> <p>Participants created a growing pattern and participated in gallery walk. Focused conversation on additive vs multiplicative thinking. Use of position cards ,building mats and unit of repeat, and variety of representations of one pattern rule.</p>	<p>Read The Right Number of Elephants and share the student work from the class. "If Sharm counted 10 trunks, how many legs would have belonged to those 10 elephants?"</p> <p>Hand out copies of the 7 student work samples.</p> <p>Feedback "in the moment" is with the student and dependent on what the student needs. It is often oral and may be about content and process. Here we are pulling them apart in order to make the learning clear.</p> <p>Examine the Stages in Multiplicative Thinking continuum and discuss what strategies you see in the student work.</p> <p>Pick one to discuss and agree on as a group of 4.</p> <p>Identify where the sample fits in the stages chart and write (on BLUE post its) descriptive feedback on the mathematics content in the sample.</p> <p>Make the point these are not normally separated but for our study – we want to focus on the content and the processes separately.</p> <p>Post descriptive feedback on the sample student work on the wall.</p> <p>During the BREAK – Gallery Walk and be ready to comment on the kinds of descriptive feedback you read. (agree – disagree – question)</p>	<p>Use post-it notes to write descriptive feedback and post the notes on the samples posted on the wall.</p>

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20 min	The mathematical processes Now consider the math processes Distribute cards – read – turn and talk – good for 7 year olds? Find your 3:00 partner . Examine the student work and write on YELLOW post-its descriptive feedback based on processes (2 at most – representing and connecting or...)
30 min	
Consolidate Debrief 15 min	Groups of 4 → back in home groups Are these prompts appropriate for 7 year olds? Introduce tongue depressors – write more appropriate prompts Re-write process prompts for Primary students on tongue depressors Journaling What did you learn today?